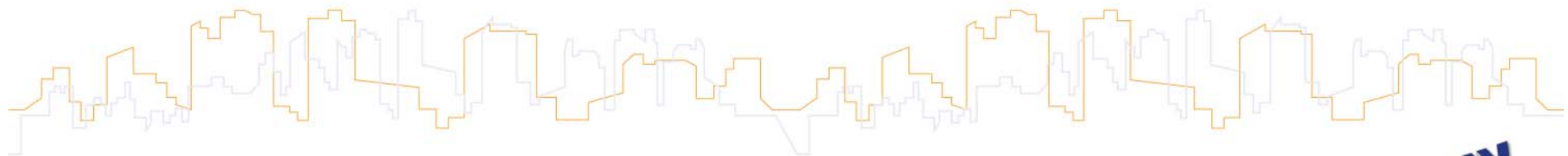
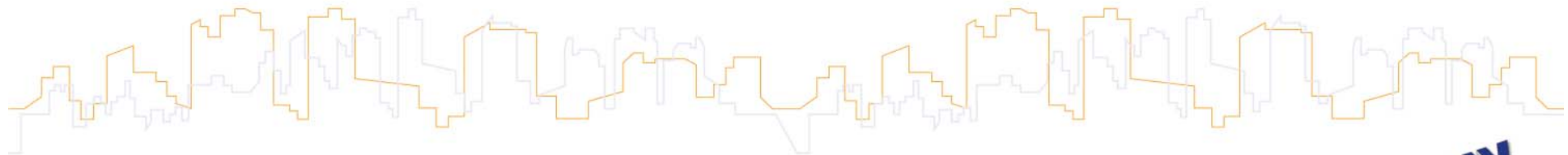


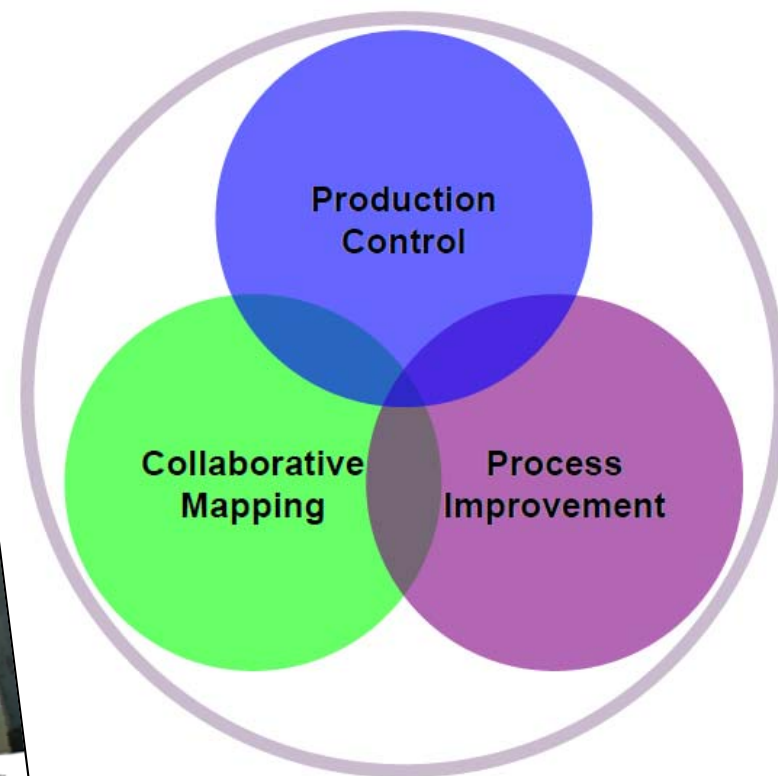
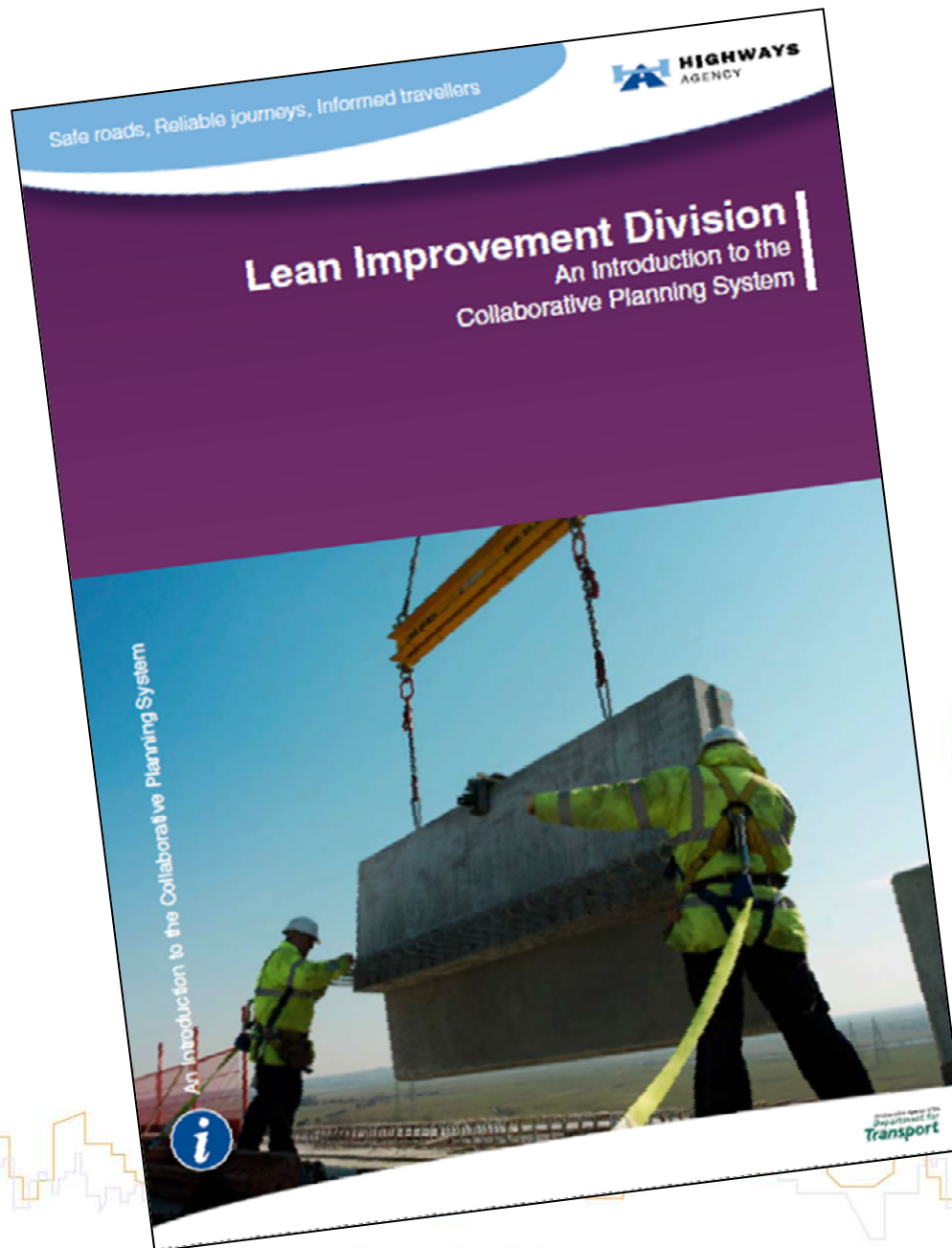
Lean on the **A23** Handcross to Warninglid

Darren Ruane, Carillion



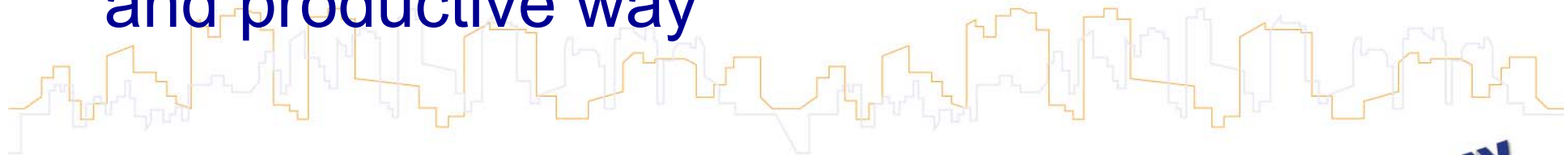
Use of Collaborative Planning & Production Control on the **A23**

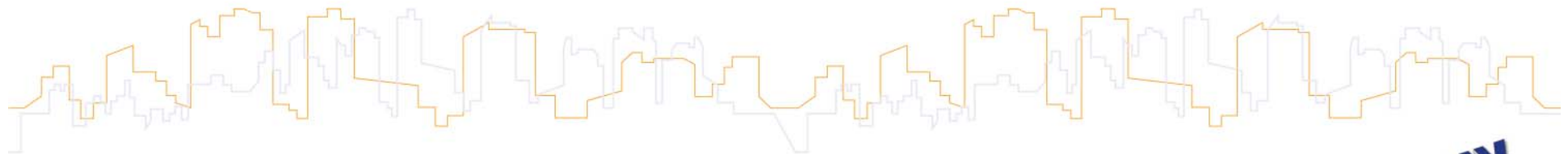




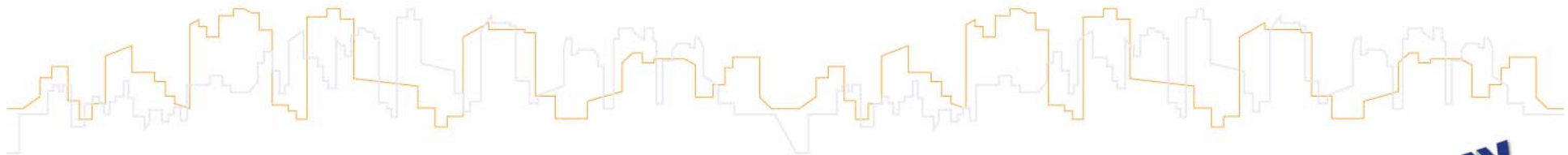
Collaborative Planning

- Create an agreed medium to long term plan
- Develop team working to agreed project goals
- Cross team understanding of other's constraints & drivers
- Builds collaborative working
- Allows the team to work together in a proactive and productive way





All The Right People



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Identify all the parties involved

-
Allocate Coloured Post-its



**Describe the
activity**

**Describe the
location**

*Required Resource
e.g. Gang 2*

Or Night shift



[illegible]

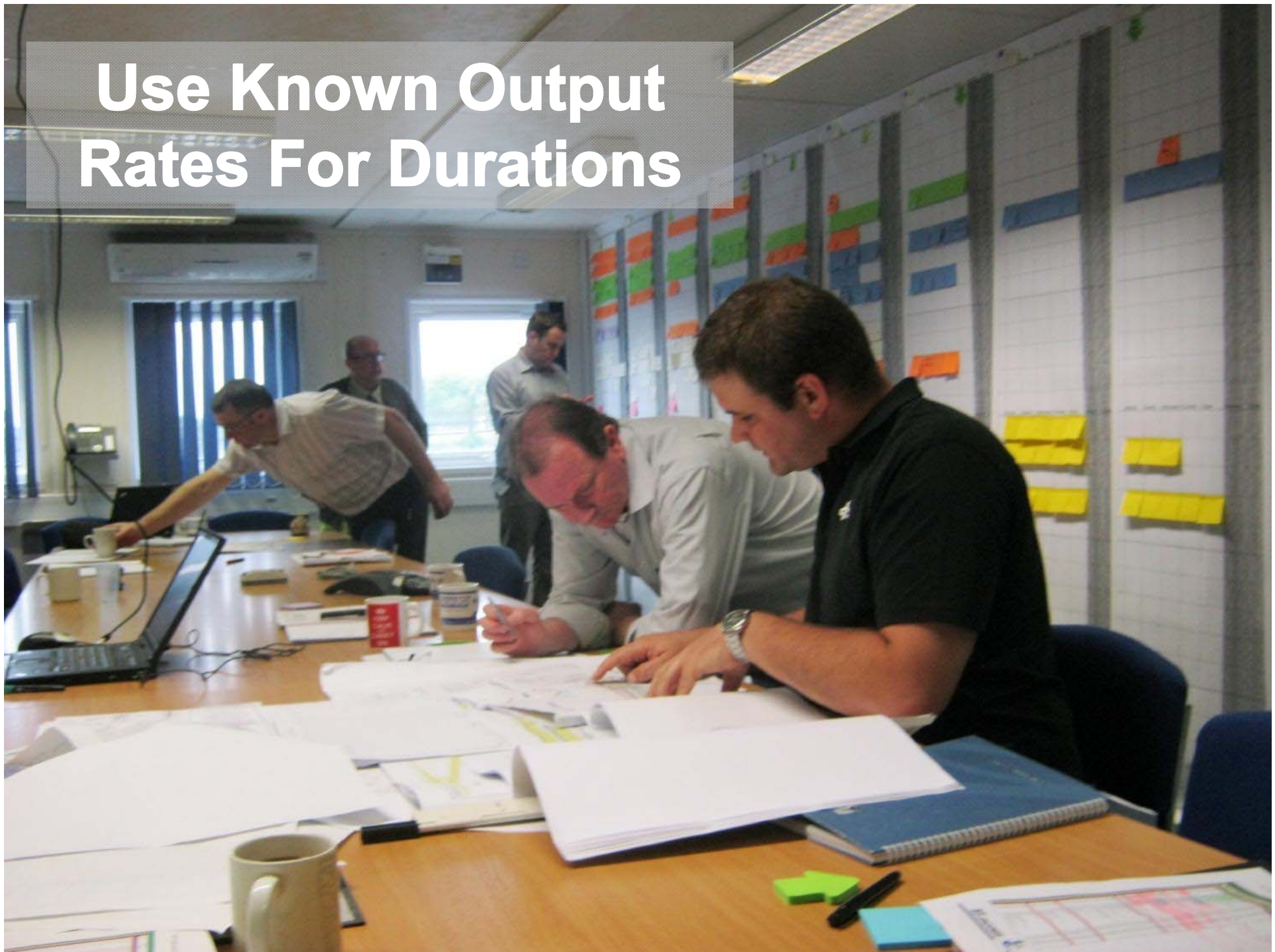


Put ALL Potential Tasks on the Sheets

-

*Even if you are unsure
of duration or timing*

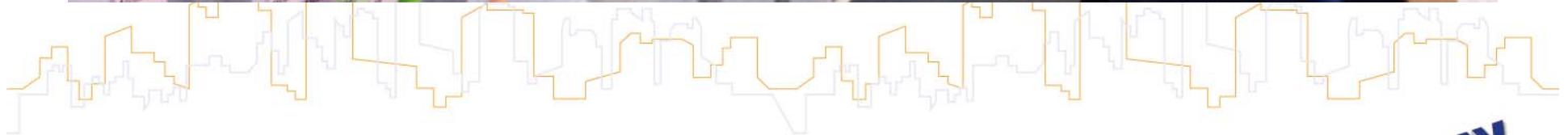
Use Known Output Rates For Durations



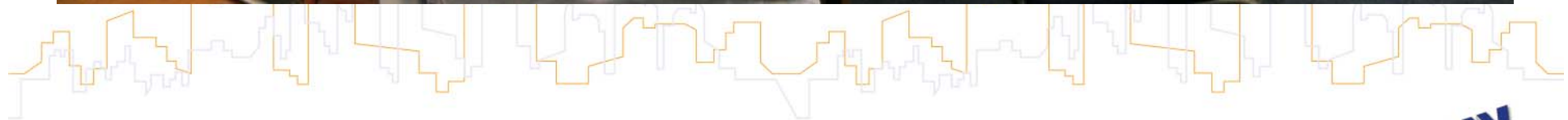


Break Down Individual Tasks with Long Durations

Discuss Possible Clashes



& Challenge Each Other



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COSTAIN

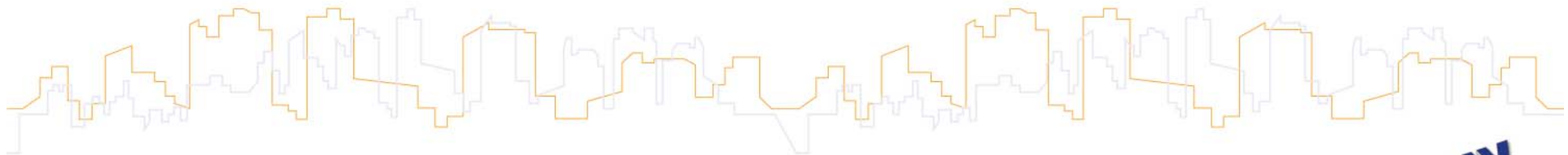
carillion

Colas

LCI-UK

Collaborative Planning

- Review it
- Identify issues and constraints
- Challenge it, Control & Protect it
- Agree it



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 **mace**

 **COSTAIN**

 **carillion**

 **Colas**

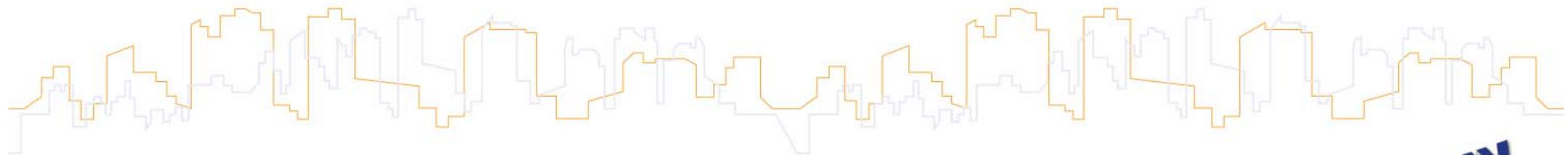
LCI-UK

Page 1 of 3

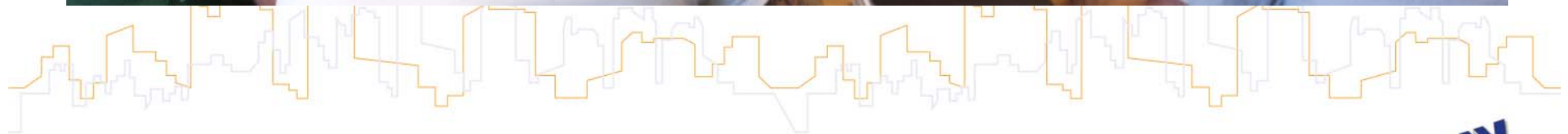
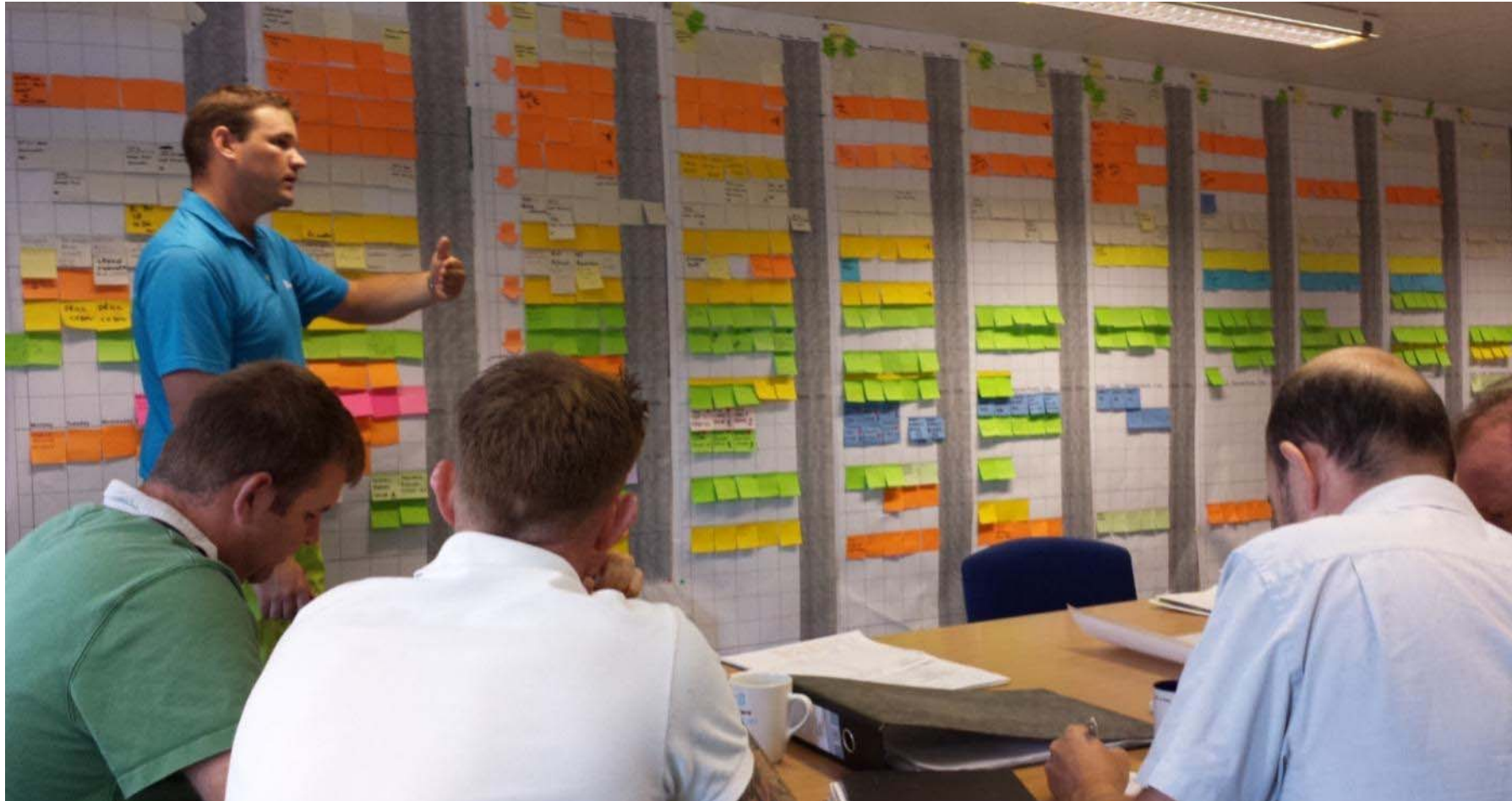


Production Control

- “What gets measured gets done”
- Weekly meeting to work together
- Manages relationships, conversations & commitments
- Monitors the team’s performance on a daily basis & identify improvement opportunities



Production Control Meeting



Production Control Meeting Format

1) Review Last Week

- Activities Complete
- Allocate Non Comp
- Move Post-Its on th

2) Make Next Weeks Plan

- Do you have everyth
start every activity?

3) Discuss 5-6 Week Lookahead

- Is everything in place for New
Activities?

Contracts
Design
Plant / Materials
Resources
Safety Issues Adc

4) Review Issues / Opportunities


- Have previously raised Issues
been Closed Out?

- If Not, Why Not?

Issue

Production Control Meeting




 Organisation: Structures Gang
 Contract: A23
 Week No: 52
 Week Commencing Monday: 12/07/13

1 WEEK LOOK-AHEAD PROGRAMME

#	Operation and Location	Start	End	Planned	Actual	Notes	Comments
1	Finish falsework to bridge deck	12/07	13/07	✓			
2	Fix Rebar to bridge deck	14/07	15/07	✓			
3	Pour Concrete to bridge deck	16/07	17/07	✓			
4	Strike Falsework to bridge deck	18/07	19/07	✓			

Prepared by: [Signature]
 Checked by: [Signature]
 Approved by: [Signature]

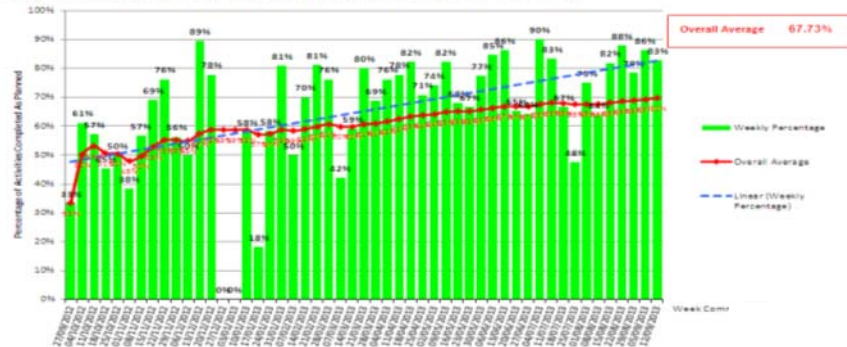
Confirmed by: [Signature]
 Date: [Date]

Production Control Meeting Outputs

A23 - Handcross to Warringlyld

Weekly Percentage of 'Activities Completed as Planned' by Site Team

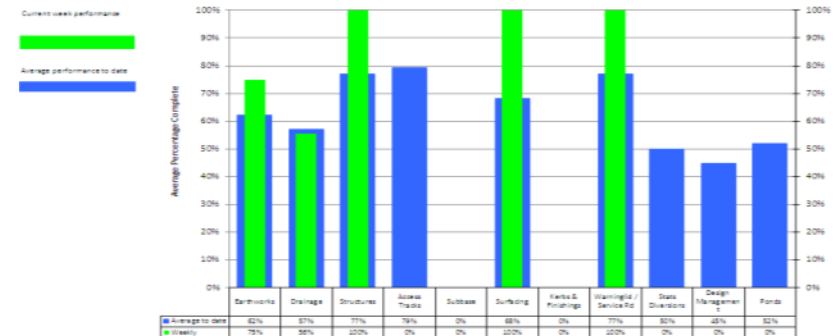
Created by: Darren Ruane
 Printed: 20 Sep 2013



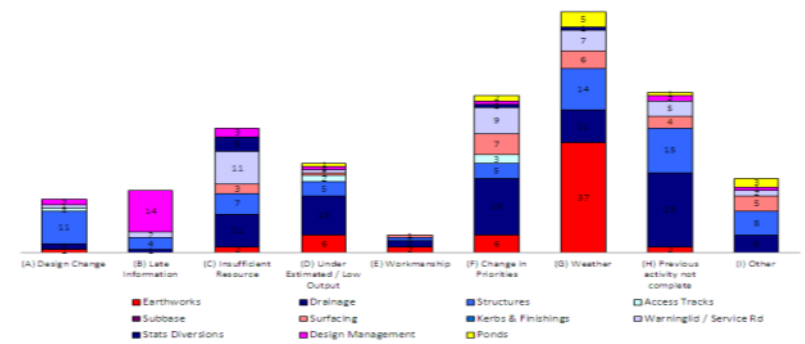
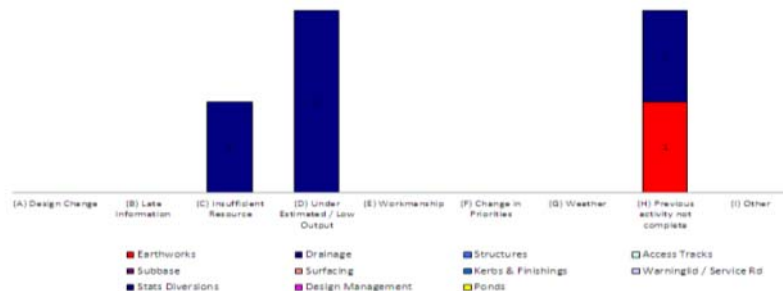
A23 - Handcross to Warringlyld

Week & Average to date of 'Activities Completed as Planned' by Company

Data Period w/c: 12 Sep 2013
 Created by: Darren Ruane
 Printed: 20 Sep 2013



“The things that get measured are the things that get done”



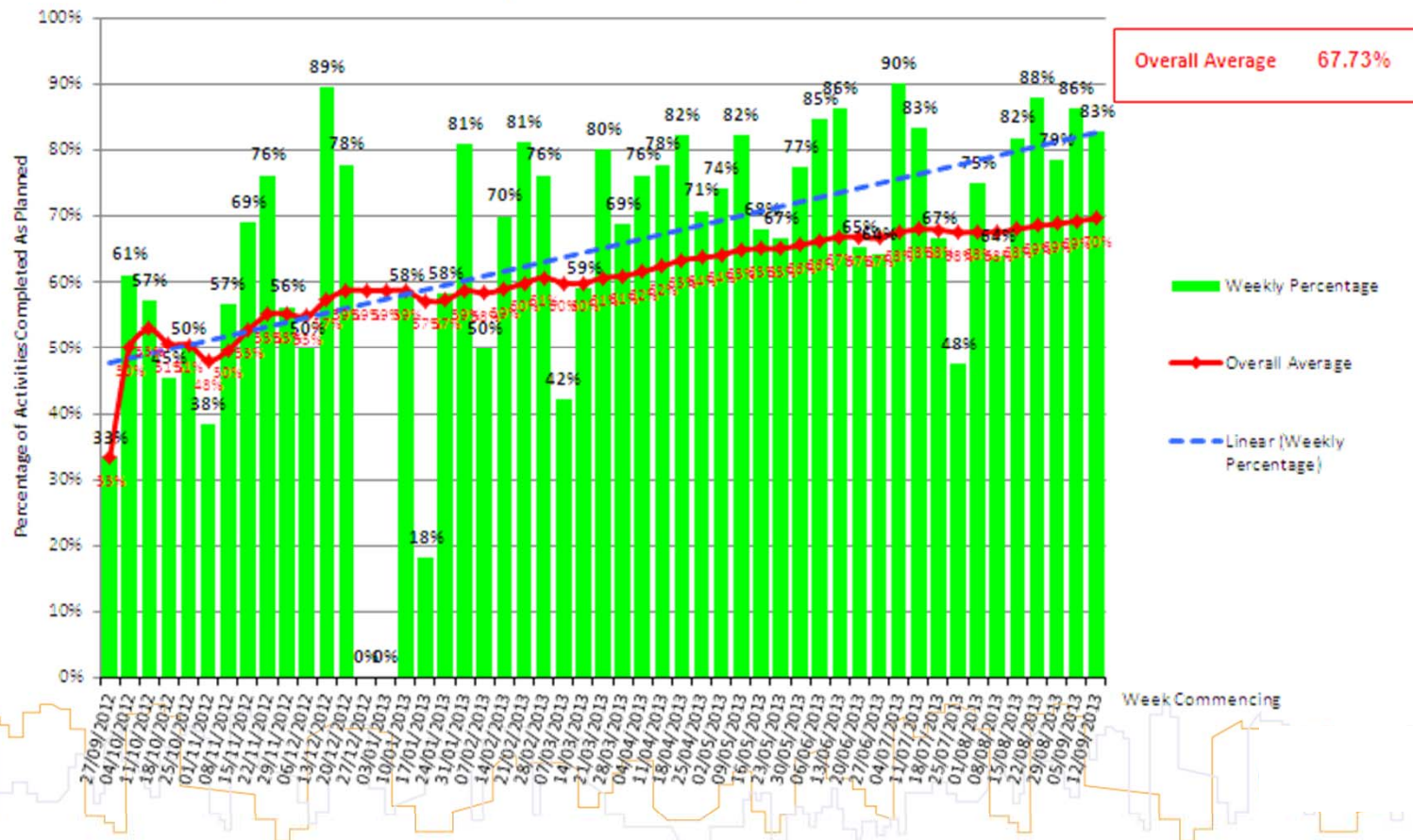
Planned Percentage Complete (PPC)

A23 - Handcross to Warninglid

Created by: Darren Ruane

Printed: 20 Sep 2013

Weekly Percentage of 'Activities Completed as Planned' by Site Team



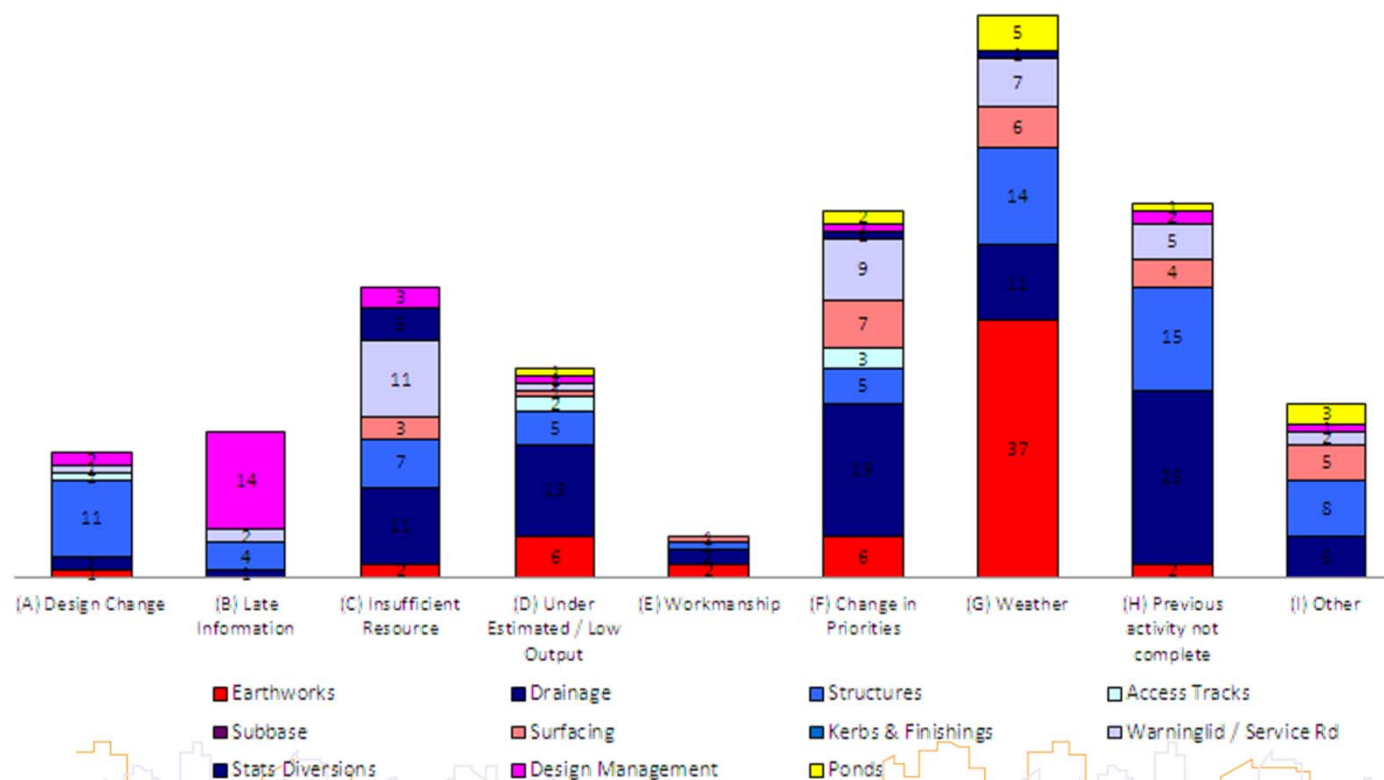
Reasons for Non Completion

A23 - Handcross to Warninglid

Created by: Darren Ruane

Printed: 20 Sep 2013

Reasons for Activities Not Completed As Planned (To Date)

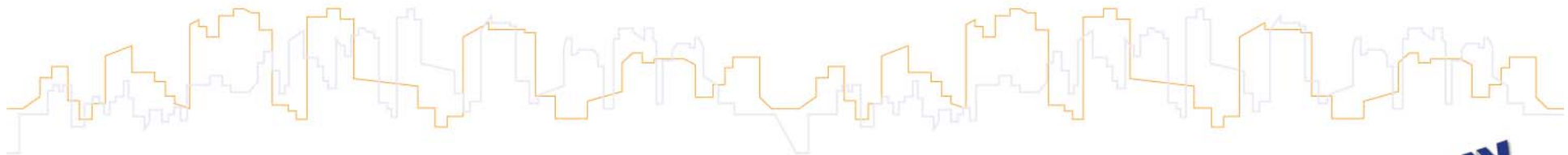


A View from the Client



Independent Review Score

107 out of 108



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 **mace**

 **COSTAIN**

 **carillion**

 **Colas**

LCI-UK

A View from the Company

31 Weeks Potential Programme Delay Mitigated



£3,480,525
Prelims Saving

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A View from the Company



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Views from the Team

Last Planner meetings provide a much more interactive forum for debate and negotiation between conflicting activities – and remove the potential for the all too often ‘silo’ mentality where - if its not my area then I don’t need to worry about it approach

Collaborative Planning is a great example of ‘What You Put In - You Get Out ‘

If I bring one thing from the A23 to my next job it will be Collaborative Planning

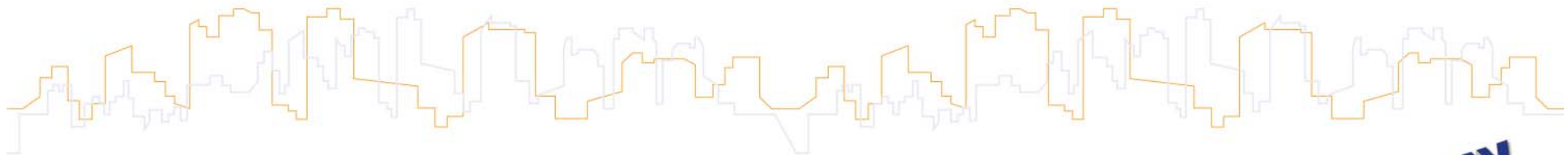
There are real Benefits regularly gained from these meetings and their outputs

The benefits I have seen from Collaborative Planning & Last Planner sessions are ‘Changes in Priorities, Changes in Methodology & Better Understanding of other peoples problems’

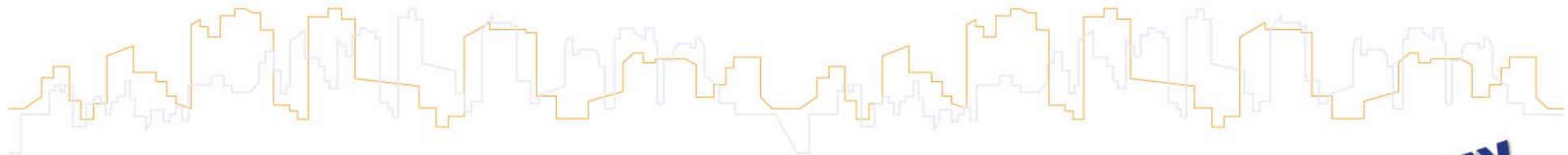
A23

Implementation Success Factors

- **Leadership Buy In** – This is imperative and can be achieved with attendance and participation in sessions
- **Experienced Facilitation** – the Carillion OpX team can establish the system and train relevant staff members
- **Can Do Attitude** – You just need a team who are willing to give something new a try



Lean Projects on the **A23**



The Eight LEAN Wastes



Transportation



Inventory



Motion



Waiting



Overproduction



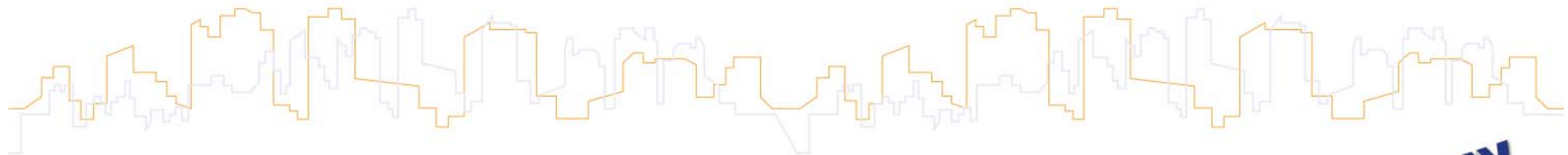
Overprocessing



Defects



Skills



Earthworks - Lean Project



CASE STUDY



Title:	A23 Earthworks Reviews
Point of Contact:	Darren Ruane – 07717 430 277
Customer:	Highways Agency
Project:	A23



**£52,344
Saving**

Ref: OpX CS 060

1. Problem Definition & Overview

The A23 Handcross to Warninglid project is a Highways Agency scheme with a project duration of over two years. The team have used Collaborative Planning and Last Planner techniques to manage the complex programme of traffic switches and a significant number of inter-related tasks and trades.

The Collaborative Planning sessions identified activities that had reasonably long durations and therefore impacted tasks around them and the overall programme. Certain Earthworks activities and the supply and removal of Earthworks materials was chosen for further review.

3. Improvement Applied

Having embraced the Lean Tools of Collaborative Planning & Last Planner with the help of Carillion's OpX Team, the team decided to carry out Lean Reviews of these Earthworks activities. Teams including Section Managers, Engineers, foreman, buyers, office managers and planners came together in these facilitated sessions to review the originally planned activities, brainstorm possible issues, propose alternative solutions, carry out cost vs benefit calculations on the new ideas and where possible implement any good ideas, that will reduce programme durations or save the project money.

2. Impacts

	Positive	Neutral	Negative
Safety		N	
Cost	✓		
Time	✓		
Quality		N	
Sustainability		N	
Culture	✓		

4. Benefits to the Project & Customer

The Highways Agency Lean Division have mandated that all new HA projects should use the Collaborative Planning and Last Planner Lean tools as they have witnessed benefits on those projects that have used them and support all projects who attempt to reduce programme and costs through Lean initiatives.

Carillion Project Leader John McNiffe has seen significant benefits from Lean processes on the project with the communication and co-operation it has brought between the various parties and the money that it has saved the project.



Rev: 01 - Sep 2014

RC Structures - Lean Project



CASE STUDY



Title:	A23 Structures Reviews
Point of Contact:	Darren Ruane – 07717 430 277
Customer:	Highways Agency
Project:	A23



**£73,500
Saving**

1. Problem Definition & Overview	2. Impacts			
<p>The A23 Handcross to Warninglid project is a Highways Agency scheme with a project duration of over two years. The team have used Collaborative Planning and Last Planner techniques to manage the complex programme of traffic switches and a significant number of inter-related tasks and trades.</p> <p>The Collaborative Planning sessions identified certain tasks that had reasonably long durations and therefore impacted activities around them and the overall programme. Certain Structures activities were chosen for further review.</p>		Positive	Neutral	Negative
	Safety		N	
	Cost	✓		
	Time	✓		
	Quality		N	
	Sustainability		N	
	Culture	✓		
3. Improvement Applied	4. Benefits to the Project & Customer			
<p>Having embraced the Lean Tools of Collaborative Planning & Last Planner with the help of Carillion's OpX Team, the team decided to carry out Lean Reviews of these critical structures activities.</p> <p>Teams including Section Managers, Engineers, foreman and planners came together in these facilitated sessions to review the originally planned activities, brainstorm possible issues, propose alternative solutions, carry out cost vs benefit calculations on the new ideas and where possible implement any good ideas, that will reduce programme durations or save the project money.</p>	<p>The Highways Agency Lean Division have mandated that all new HA projects should use the Collaborative Planning and Last Planner Lean tools as they have witnessed benefits on those projects that have used them and support all projects who attempt to reduce programme and costs through Lean initiatives.</p> <p>Carillion Project Leader John McNiffe has seen significant benefits from Lean processes on the project with the communication and co-operation it has brought between the various parties and the money that it has saved the project.</p>			




Surfacing - Lean Project



CASE STUDY



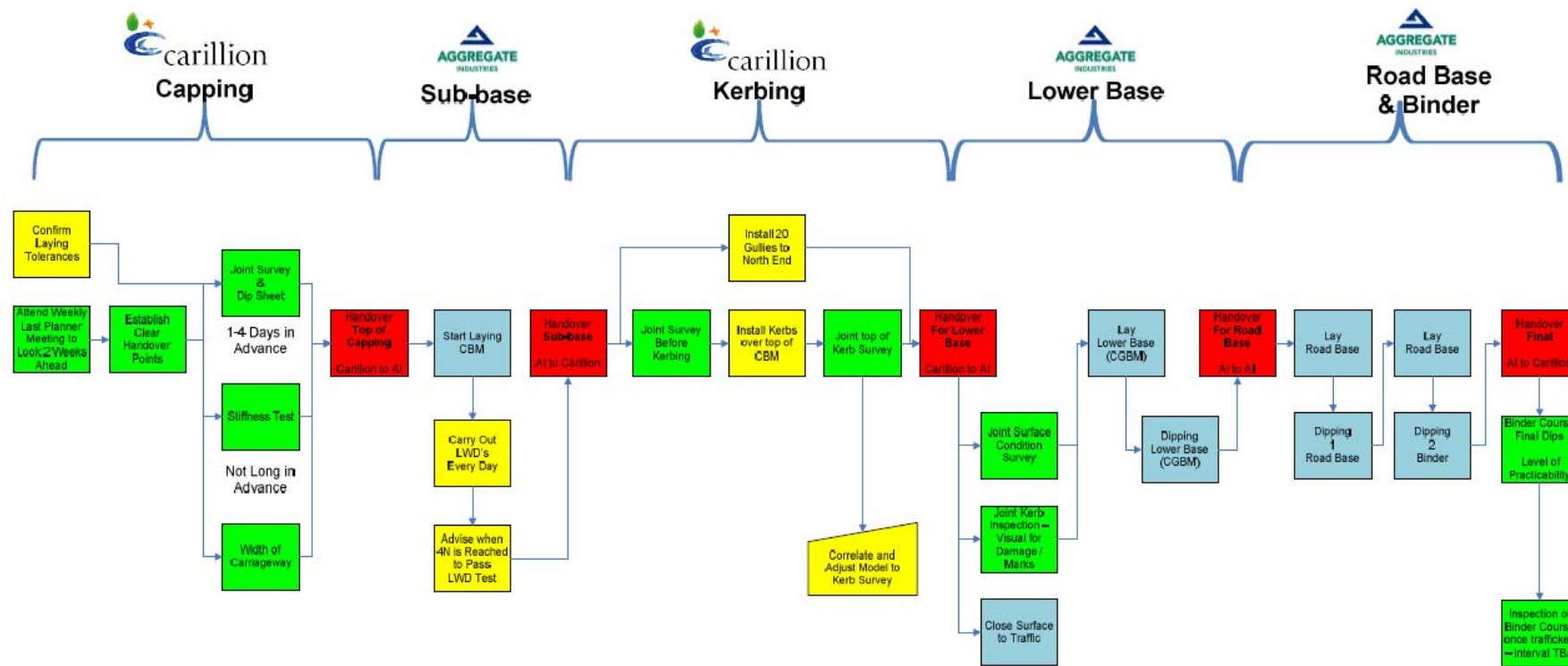
Title:	A23 Joint Surfacing Review 
Point of Contact:	Darren Ruane – 07717 430 277
Customer:	Highways Agency
Project:	A23



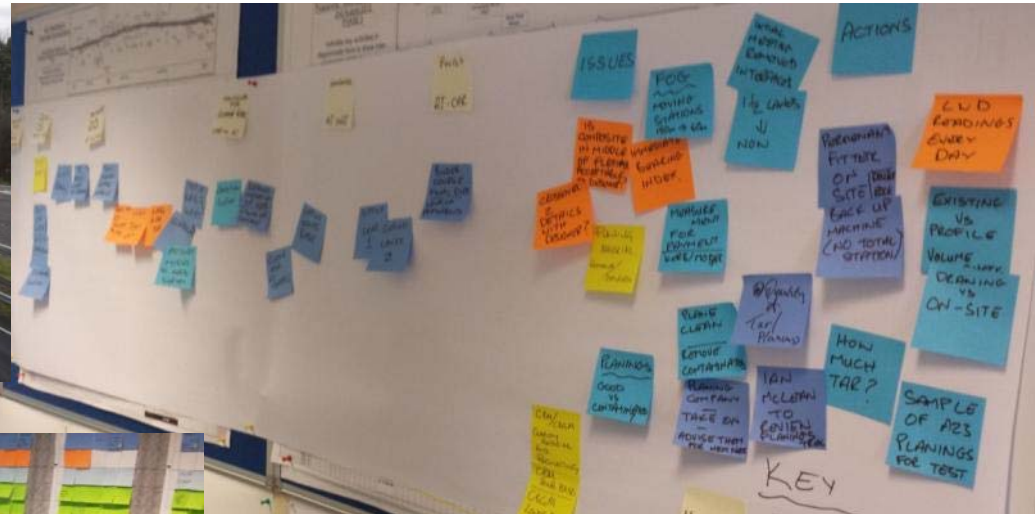
1. Problem Definition & Overview	2. Impacts			
<p>The A23 Handcross to Warninglid project is a Highways Agency scheme with a project duration of over two years. The team have used Collaborative Planning and Last Planner techniques to manage the complex programme of traffic switches and a significant number of inter-related tasks and trades.</p> <p>The Collaborative Planning sessions identified certain tasks that had reasonably long durations and therefore impacted activities around them and the overall programme. Certain Structures activities were chosen for further review.</p>		Positive	Neutral	Negative
	Safety	✓		
	Cost	✓		
	Time	✓		
	Quality	✓		
	Sustainability		N	
	Culture	✓		
3. Improvement Applied	4. Benefits to the Project & Customer			
<p>A Joint Team from Carillion and Aggregate Industries including Section Managers, Engineers, Foremen, Planners, Technical Managers and Quantity Surveyors came together in facilitated sessions to review the activities. A Process Map of the handovers and survey requirements was jointly developed to ensure clarity of the upcoming element of work. The team brainstormed possible issues, proposed alternative solutions, carried out cost vs benefit calculations on the new ideas and where possible implemented any good ideas, that would reduce programme durations or save the project money.</p>	<p>The Highways Agency Lean Division have a desire for Lean to be implemented across all levels of their supply chain, and this joint project is a good example of first and second tier suppliers working together collaboratively to attempt to reduce programme and costs through Lean initiatives, thereby saving the project and the client money.</p>			
	<p>Carillion Project Leader John McNiffe has seen significant benefits from Lean processes on the project with the communication and co-operation it has brought between the various parties and the money that it has saved the project.</p>			



Surfacing - Lean Project



Surfacing - Lean Project



A23



